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match in related transplant is unlikely. In contrast, investigating the frequency of a donor-recipient HFE mismatch in a series of 60 unrelated bone marrow transplants otherwise perfectly matched on the HLA-A,B,C,DRB1,DQB1 loci, we found a mismatch in 10 cases. These data suggest that HFE could be a potent histocompatibility antigen in humans in view of its structural polymorphism.

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MULTIDISCIPLINARY APPROACH TO DEVELOPMENT OF A GVHD OUTPATIENT CLINIC

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Managing GVHD is a particularly challenging aspect of the care of blood and marrow transplant recipients. In the Blood and Marrow Transplant program at Baylor University Medical Center, the GVHD patients were identified as a population that could benefit from an interdisciplinary approach in a specialized clinic setting. A questionnaire was sent to the transplant physician group to gauge interest in and the need for this clinic. It was determined that enough interest was present and a patient population would support the organization of this program. The interdisciplinary team consisted of an oncologist as team leader, dermatologist, clinic manager, contract administrator, nurse manager, pharmacist, biostatistician, physical therapist, occupational therapist, dietitian, enterostomal therapist, social worker, and chaplain. The team gathered for regular meetings to decide on structure, services, and supplies that would be needed to support such an endeavor. The clinic manager and contract administrator investigated financial reimbursement for each discipline in the outpatient setting. Organization of the GVHD clinic recommended that each patient see the medical team leader followed by other specialty areas that would benefit the patient. A key component for a successful clinic is data collection for patients before their appointments to assist clinicians with a thorough needs assessment. Each discipline offered a data collection tool and these were compiled by a team member. This tool includes sections on medication, medical symptoms, skin assessment, nutrition, physical and occupational therapy, and psychosocial needs. Prior to patient's appointments, questionnaires are mailed with the instructions to complete and bring to their appointment. Research protocols for disciplines in this clinic are being developed. Taking a multidisciplinary approach to a GVHD clinic is a key factor in developing a successful program.

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IL-7 IS NECESSARY FOR THE DEVELOPMENT OF EXPERIMENTAL GRAFT-VERSUS-HOST DISEASE (GVHD)

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Interleukin 7 (IL-7) promotes both thymopoiesis and the survival and proliferation of mature T lymphocytes. Although IL-7 enhances immune reconstitution following hematopoietic stem cell transplantation (HSCT), its effect on mature T lymphocytes in allogeneic bone marrow transplantation (BMT) could lead to exacerbation of GVHD. However, recent experiments to determine whether IL-7 treatment worsens GVHD have produced conflicting results. Therefore, this study was designed to examine whether IL-7 is necessary for the induction of GVHD by maintaining donor mature T cells following allogeneic BMT. In order to induce GVHD, B6 or B6/IL-$7^{-/-}$ ($CD45.2^+$ $H2K^b$) recipient mice were lethally irradiated (1300 cGy) and co-transplanted with $4x10^6$ lymph node (LN) and $1x10^6$ T cell depleted (TCD) BM cells from either congenic B6.SJL ($CD45.1^+$, $H2K^b$) or major MHC mismatched allogeneic Balb/C ($CD45.2^+$, $H2K^d$) donor mice. Following transplantation, the recipient mice received either human recombinant IL-7 (rhIL-7) 500ng BID or PBS from day 1 to 60. The survival rate was similar in all groups of mice for the first 25 days after transplantation and no evidence of GVHD was detected from allogeneically transplanted B6/IL-$7^{-/-}$ recipients treated with PBS. In contrast, GVHD-related mortality and morbidity in allogeneic recipients treated with IL-7 were increased compared to the PBS treated groups. IL-7 treatment significantly reduced survival in the B6/IL-$7^{-/-}$ mice (15%, n = 20) compared to the PBS treated B6/IL-$7^{-/-}$ recipients (59%, n = 17 [$p < 0.005$]). Furthermore, the overall GVHD clinical index of IL-7 treated B6/IL-$7^{-/-}$ was significantly lower than the PBS treated B6/IL-$7^{-/-}$ recipients ($p < 0.05$). The recovery of donor $CD4^+$ or $CD8^+$ T cells in the periphery of the PBS treated B6/IL-$7^{-/-}$ recipients was significantly lower than the IL-7 treated B6/IL-$7^{-/-}$ mice by day 30 post-transplantation. In addition, IL-7 treatment increased the number of activated (CD69 positive) donor-derived CFSE labeled CD4 and CD8 LN T lymphocytes in the lymph nodes of B6/IL-$7^{-/-}$ mice compared to PBS treated B6/IL-$7^{-/-}$ recipients indicating that IL-7 enhances maintenance of dividing activated allogneic mature T cells. Therefore, it is likely that IL-7 is necessary for the development of GVHD presumably by maintaining the adequate number of activated donor T cells in the periphery of the recipient animals post-allogeneic BMT.

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THE ABSENCE OF PEYER'S PATCHES OR HOST TNF-A DOES NOT AFFECT GVHD PROGRESSION IN AN ALLOGENEIC BMT MODEL USING EXTENSIVE CONDITIONING REGIMENS

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Peyer's patches (PP) have been previously shown to play a critical role in the initiation of acute lethal GVHD in a non-irradiated murine model (Murai et al., 2003). This report utilized IL-7 receptor antibody treatment of pregnant mice to inhibit the development of PPs in the fetus. We wanted to assess GVHD progression in mice congenitally deficient in PP presence and function. The absence of various members of the TNF and TNF-R families also affects secondary lymphoid structure and organization. The presence of PP has varied between different independently generated TNF knockout strains which may be related to the close linkages of *tnf* with *lta* and *ltb* genes. A new TNF deficient strain has been developed that lacks PPs, displays the defects characteristic of TNF ablation but not the LT associated defects characterized by lack of lymph nodes and defects in splenic microarchitecture. To examine the role of host-derived TNF family members in acute lethal GVHD, we also had to assess the role of secondary lymphoid structures. We utilized a full MHC mismatched mode of BALB/c ($H2^d$) cells into myeloablated C57BL/6 ($H2^b$) recipients. We lethally irradiated wild type (WT) mice, TNF-α deficient mice with Peyer's patches (PP+) and TNF-α deficient mice without Peyer's patches (PP-) followed by infusion of allogeneic bone marrow and spleen cells. We observed no difference in the survival of the three groups of mice (median day of death ranged from 26 to 27). In addition, no significant differences were observed in GVHD associated histopathological lesions in the small intestine. Hisopathological lesions observed in the colon were similar in both the PP+ and PP- TNF-α deficient recipients. Based on our observations, we conclude that (1) Peyer's patches and (2) host TNF-α are not required for the development of acute lethal GVHD in mice that received extensive conditioning and allogeneic bone marrow transplantation.

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DEVELOPMENT OF NUTRITION ALGORITHMS FOR CHRONIC GVHD

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One of the challenges for patients with chronic GVHD is to maximize quality of life by maintaining optimal nutritional intake and minimizing loss of lean body mass. Registered Dietitians (RD's) play an integral role in the nutritional care of patients in the Blood and Marrow Transplant program at Baylor University Medical Center and are part of the team establishing a new GVHD clinic. Patients referred to the GVHD clinic are seen by the RD